Outcomes Associated with Implementation of Teacher-Child Interaction Training (TCIT) in Pre-Kindergarten through 2nd Grade Classrooms in Cherokee and Storm Lake, Iowa

June 23, 2020

Prepared by:

Claire Rynearson, MPA, LICSW
STEPs Program Evaluator

with Jeanette Harder, PhD, Professor
STEPs Project Director

TCIT Outcomes for Classrooms in Cherokee and Storm Lake, Iowa

Background

Teacher-Child Interaction Training (TCIT) is an adaptation of Parent-Child Interaction Therapy (PCIT) for use by teachers in classrooms. TCIT was designed to improve the social, emotional, and behavioral competence of children. Teachers typically utilize TCIT to reduce challenging behaviors in classrooms, including physical aggression, verbal aggression, destruction of property, noncompliance, defiance, hyperactivity, inattention, emotional dysregulation, and negative teacher-child relationships (PCIT TCIT Training, 2020).

TCIT was implemented in pre-kindergarten, kindergarten, first, and second grade classrooms in both Cherokee, Iowa and Storm Lake, Iowa during the fall 2019 semester.

Methods

TCIT was implemented by 20 teachers in both Cherokee and Storm Lake, Iowa during the fall 2019 semester. TCIT skills among teachers were assessed using the Dyadic Parent-Child Interaction Coding System, Fourth Edition (DPICS-IV) weekly throughout the semester. TCIT was implemented with 324 students in both Cherokee and Storm Lake, Iowa during the fall 2019 semester. All students grades pre-school through 2nd grade were assessed at both the beginning of the semester and at the end of the semester using either the Devereux Early Childhood Assessment for Preschoolers, Second Edition (DECA-P2) or the Devereux Student Strengths Assessment (DESSA). Additionally, teachers selected students with high levels of disruptive behavior and rated those students using the Sutter-Eyberg Student Behavior Inventory Revised (SESBI-R) weekly throughout the semester.

Pre- and post-test ratings collected for the DPICS-IV, DECA-P2, DESSA, and SESBI-R were analyzed in this study using paired sample t-tests.

DPICS-IV

The DPICS-IV is designed to assess teacher-child social interactions throughout the course of TCIT implementation (Eyberg, Chase, Fernandez, & Nelson, 2014). Teacher skills measured by the DPICS-IV include Labeled Praise, Reflections, and Behavior Descriptions, with the intention that these skills will increase over the course of the semester. Other skills the DPICS-IV measures include Negative Talk, Commands, and Questions, with the intention that these skills will decrease over the course of the semester. In this sample, 20 teachers were rated using the DPICS-IV with both pre- and post-test measures for all teachers.

Methods (cont.)

DECA-P2

The DECA-P2 is designed for children ages 3-5 and is completed by the child's teacher to provide an assessment of child protective factors central to social and emotional health and resilience. The DECA-P2 measures initiative, self-control, attachment, total protective factors, and behavioral concerns (LeBuffe & Naglieri, 2012). It has demonstrated high internal reliability and interrater reliability as well as high construct validity (Fleming & LeBuffe, 2014). In this sample, 125 students were rated using the DECA-P2.

DESSA

The DESSA is designed for students in kindergarten through 8th grade and is completed by the child's teacher to provide an assessment of social-emotional competence. Specifically, the DESSA measures personal responsibility, optimistic thinking, goal-directed behavior, social awareness, decision-making, relationship skills, self-awareness, self-management, and overall social-emotional skills. The DESSA is nationally standardized and has shown high internal reliability and construct validity (LeBuffe, Shapiro, & Robitaille, 2018). In this sample, 199 students were rated using the DESSA.

SESBI-R

The SESBI-R is completed by the child's teacher and used to assess the intensity and frequency of disruptive behaviors in school (Eyberg, 1999). The SESBI-R has demonstrated high internal consistency (Intensity Scale, .98; Problem Scale, .96), high test-retest reliability, and high interrater reliability. Additionally, the SESBI-R has demonstrated convergent, discriminant, and predictive validity (Eyberg, 1999; Querido & Eyberg, 2003). Using the SESBI-R, teachers were asked to rate the level of disruptive behavior (intensity scale) and the number of behavior problems (problem scale) for selected students weekly throughout the implementation of TCIT. In this sample, 38 students were assessed using the SESBI-R. For the purpose of this study, the first and last week's scores were used from the fall 2019 semester as pre- and post-test scores.

TCIT Outcomes for Classrooms in Cherokee and Storm Lake, Iowa

Outcomes

Overall, findings from Storm Lake and Cherokee, Iowa for fall 2019 indicate that TCIT was effective in increasing social-emotional competence across many areas.

Preschoolers demonstrated increases in initiative, self-control, and attachment following TCIT implementation. Preschool students also saw an increase in protective factors and a decrease in behavioral concerns.

Students in kindergarten through 3rd grade demonstrated increases in personal responsibility, optimistic thinking, goal-directed behavior, social awareness, decision making, relationship skills, self-awareness, self-management, and overall social-emotional skills following TCIT implementation.

Moreover, students with high rates of disruptive behaviors exhibited a significant decrease in both the frequency of disruptive behavior and the intensity of disruptive behavior following TCIT implementation at both Storm Lake and Cherokee, Iowa.

Findings also indicate that teacher skills in Storm Lake and Cherokee, IA improved over the course of the semester.

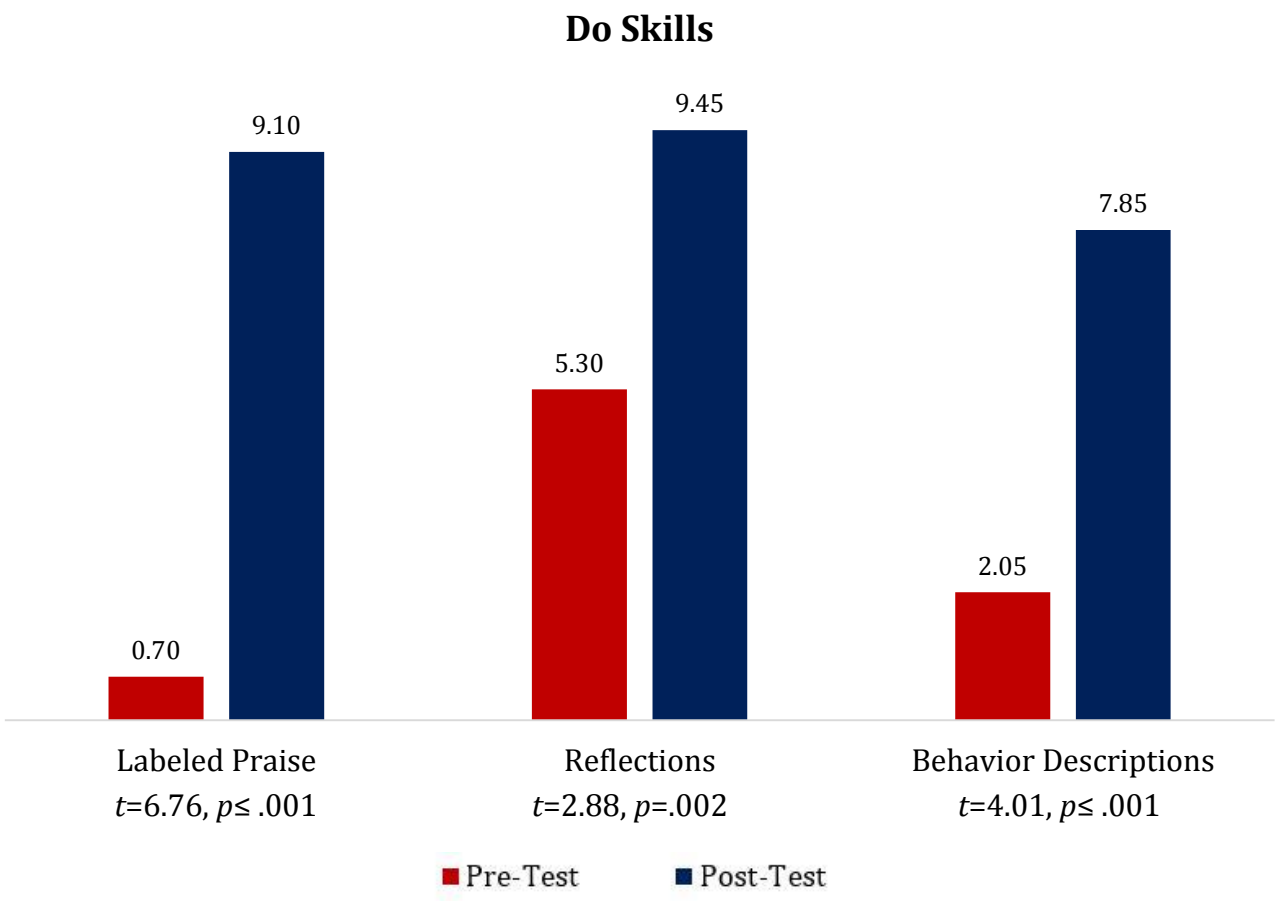
Detailed results can be found on the following pages.

DPICS-IV Results

Results from the 20 teachers assessed using the DPICS-IV are categorized as *do skills* and *don't skills*. *Do skills* include labeled praise, reflections, and behavior descriptions, with the intention that these skills between pre- and post-test. *Don't skills* include negative talk, questions, and commands, with the intention that these skills decrease between pre- and post-test.

Do Skills

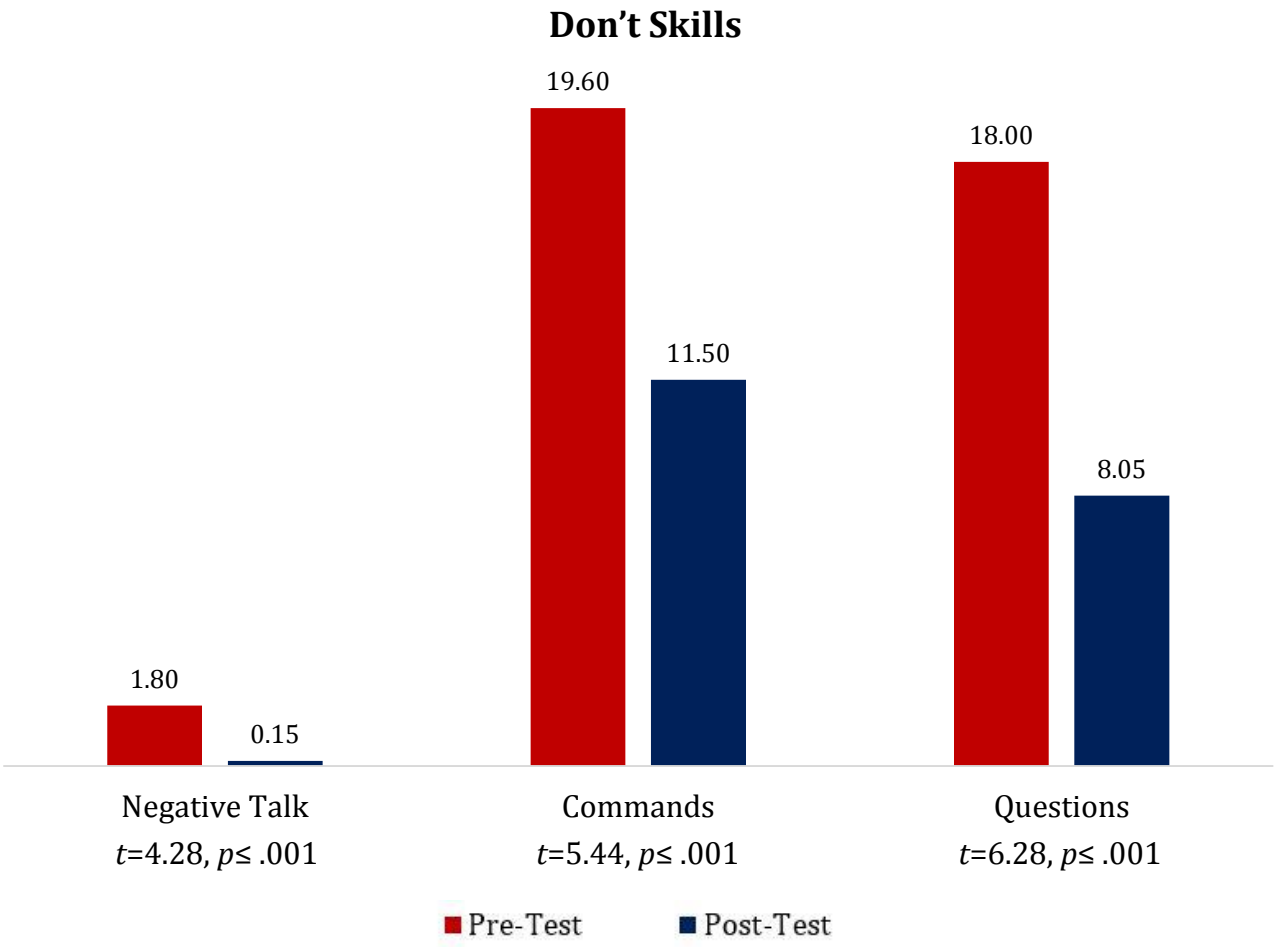
Results demonstrate a statistically significant increase in labeled praise between pre-test (0.70) and post-test (9.10). On average, labeled praise scores increased by 8.40 over the course of the semester ($p \leq .001$, n=20). Results demonstrate an increase in reflections between pre-test (5.30) and post-test (9.45). On average, reflections scores increased by 4.15 points over the course of the semester (p=.002, n=20), which is statistically significant. Results demonstrate a statistically significant increase in behavior descriptions between pre-test (2.05) and post-test (7.85). On average, behavior descriptions scores increased by 5.80 over the course of the semester ($p \leq$ .001, n=20).



DPICS-IV Results (cont.)

Don't Skills

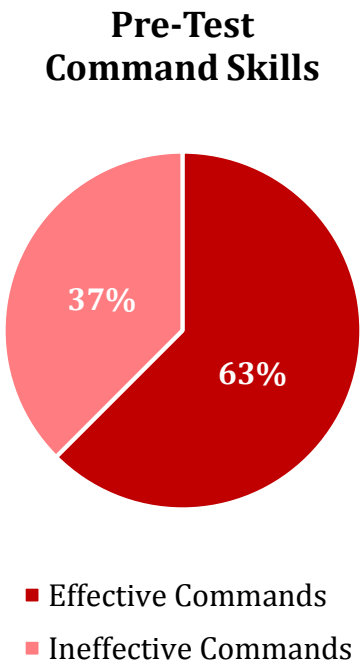
Results demonstrate a statistically significant decrease in negative talk between pre-test (1.80) and post-test (0.15). On average, negative talk scores decreased by 1.65 over the course of the semester ($p \leq .001$, n=20). Results demonstrate a statistically significant decrease in commands between pre-test (19.60) and post-test (11.50). On average, command scores decreased by 8.10 over the course of the semester ($p \leq .001$, n=20). Results demonstrate a statistically significant decrease in question skills between pre-test (18.00) and post-test (8.05). On average, question scores decreased by 9.95 over the course of the semester ($p \leq .001$, n=20).

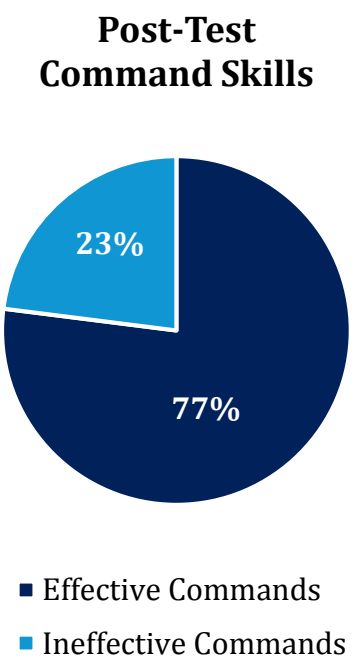


DPICS-IV Results (cont.)

Command Skills

Command skills are categorized into *effective commands* and *ineffective commands*. Ideally, teachers will demonstrate the use of more effective command skills than ineffective command skills throughout the course of TCIT implementation. Results indicate that, on average, 63% of all command skills teachers used at pre-test were effective command skills. This percentage increased over the semester and, on average, 77% of all command skills teachers used at post-test were effective command skills.



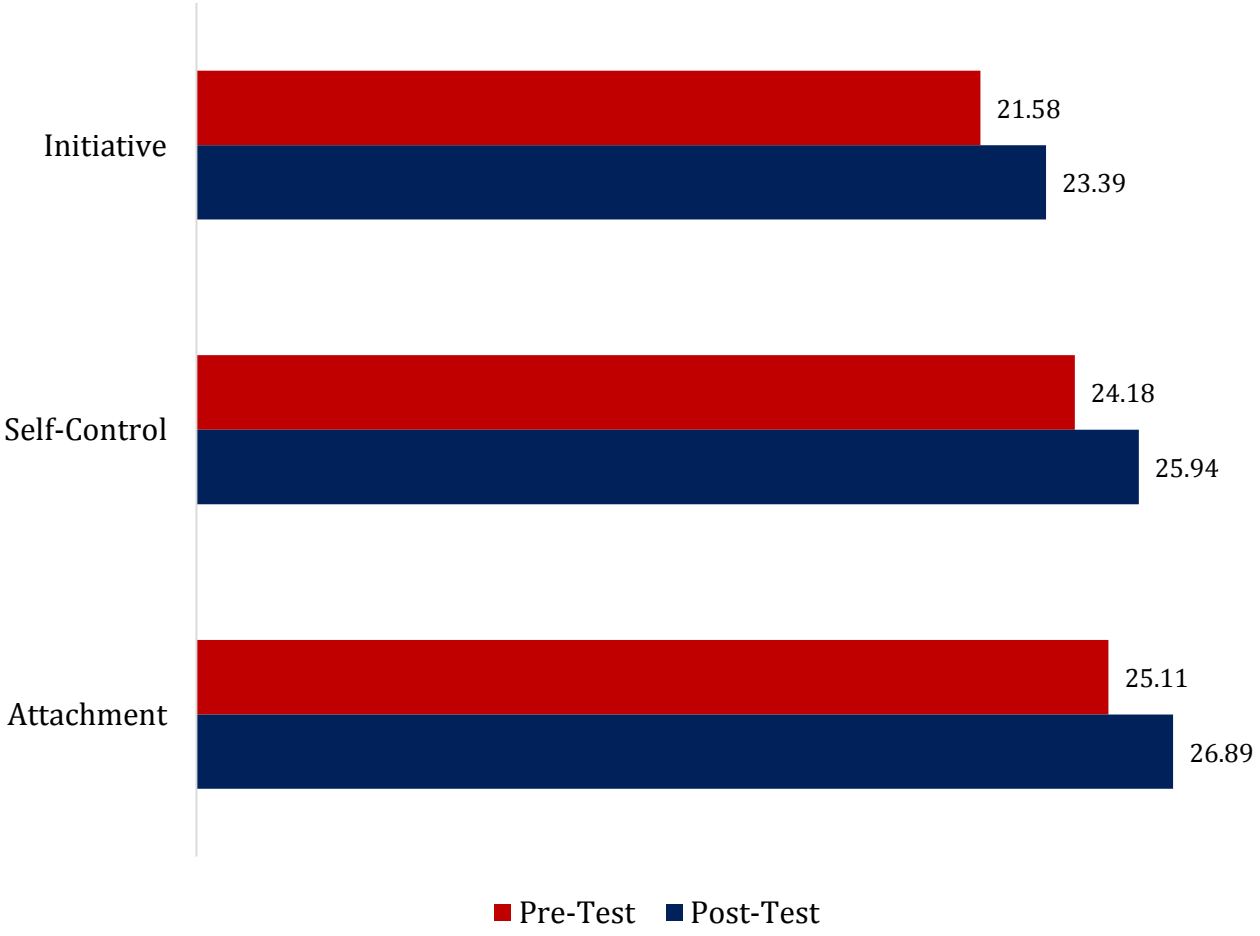


Results indicate that, on average, ineffective commands decreased by 4.70, which is statistically significant ($p \leq .001$, n=20).

DECA-P2 Results

Results from the 125 students, ages 3-5, assessed using the DECA-P2 indicate statistically significant increases in scores for initiative, self-control, and attachment. Initiative scores increased an average of 1.81 points between pre-test and post-test. The average pre-test initiative score was 21.58 and the average post-test initiative score was 23.39. This difference is statistically significant ($p \leq .001$, n=125). Self-control scores increased an average of 1.76 points between pre-test and post-test. The average pre-test self-control score was 24.18 and the average post-test self-control score was 25.94. This difference is statistically significant ($p \leq .001$, n=125). Attachment scores increased an average of 1.78 points between pre-test and post-test. The average pre-test attachment score was 25.11 and the average post-test attachment score was 26.89. This difference is statistically significant ($p \leq .001$, n=125).

DECA-P2 Initiative, Self-Control, and Attachment Scores



DECA-P2 Results (continued)

Moreover, results indicate a statistically significant increase in total protective factors ($p \leq .001$, n=125). The average total protective factor score at pre-test was 145.52 and the average total protective factor score at post-test was 154.73. On average, total protective factor scores increased by 9.21 points.

DECA-P2 Total Protective Factors

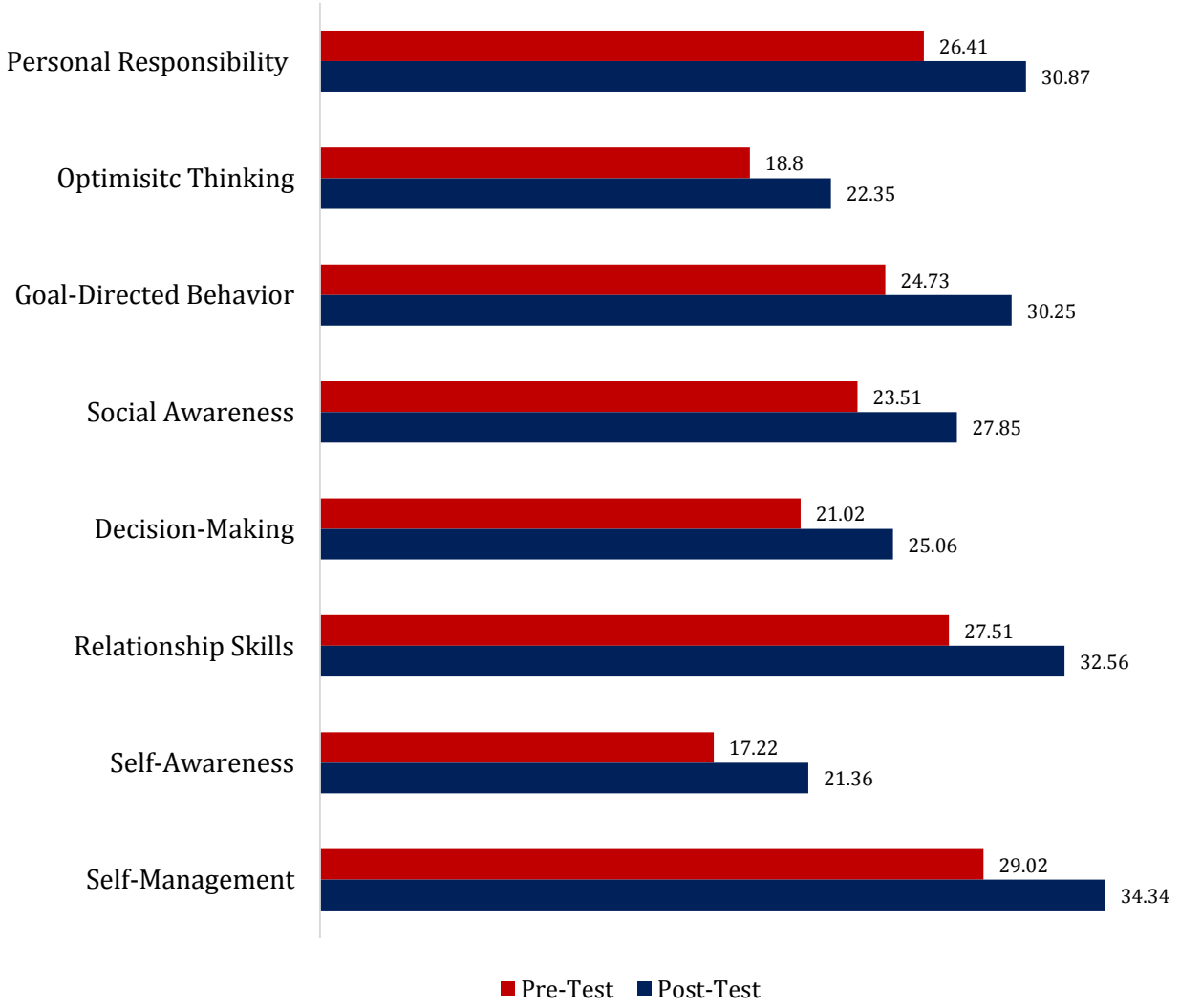
Overall, results indicate a statistically significant decrease in behavioral concerns ($p \leq .001$, n=125). The average behavioral concerns score at pre-test was 9.10 and the average behavioral concerns score at post-test was 7.68. On average, behavioral concerns decreased by 1.42 points.

DECA-P2 Behavioral Concerns

DESSA Results

Results from the 199 students assessed using the DESSA indicate statistically significant increases in scores for personal responsibility, optimistic thinking, goal-directed behavior, social awareness, decision-making, relationship skills, self-awareness, self-management, and overall social-emotional skills. Personal responsibility scores increased an average of 4.46 points. Optimistic thinking scores increased an average of 3.55 points. Goal-directed behavior scores increased an average of 5.52 points. Social awareness scores increased an average of 4.34 points. Decision making scores increased an average of 4.04 points. Relationship skills scores increased an average of 5.05 points. Self-awareness scores increased an average of 4.14 points. Self-management scores increased an average of 5.32. All of these increases on DESSA subscales were statistically significant ($p \leq .001$, n=199).

DESSA Subscale Scores



DESSA Results (continued)

Moreover, results indicate a statistically significant increase in students' social-emotional composite (SEC) scores between pre-test and post-test. SEC scores increased an average of 57.42 points. The average pre-test SEC score was 407.08 and the average post-test SEC score was 464.50 ($p \leq .001$, n=199).

DESSA Social-Emotional Composite Scores

SESBI-R Results

Overall, the intensity of students' disruptive behaviors reduced by 54.37 points between the pre- and post-test. The average pre-test intensity score was 162.95, and the average post-test intensity score was 108.58. This difference is statistically significant (t=12.34, $p \leq .001$, n=38).

Storm Lake and Cherokee SESBI-R Intensity Scores

	n	Mean	SD
Pre-test	38	162.95	36.92
Post-test		108.58	42.17

$p \leq .001$

Additionally, the frequency of students' disruptive behaviors reduced by 10.21 between the pre- and post-test. The average pre-test frequency score was 15.34, and the average post-test frequency score was 5.13. This difference is statistically significant (t=6.62, $p \leq .001$, n=38).

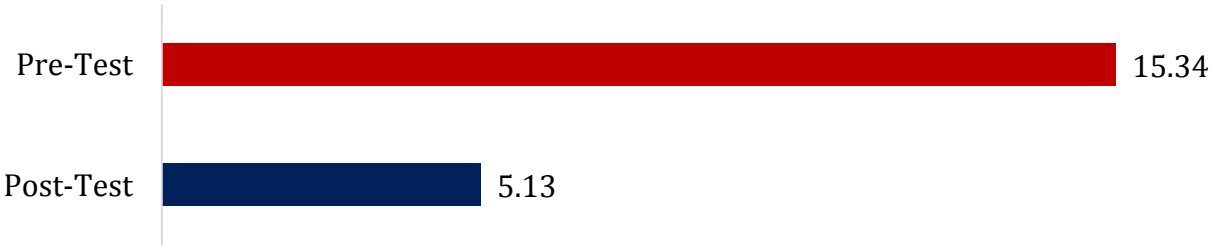
Storm Lake and Cherokee SESBI-R Problem Scores

	n	Mean	SD
Pre-test	38	15.34	10.41
Post-test		5.13	7.89

$p \leq .001$

SESBI-R Intensity Scale

SESBI-R Problem Scale



Summary

Overall, findings from Storm Lake and Cherokee, Iowa for fall 2019 indicate that TCIT was effective in increasing social-emotional competence among students. Moreover, it was found to reduce both the intensity and frequency of disruptive behaviors among students with high rates of problem behaviors in classroom settings. These findings appear to be consistent with previous TCIT implementation studies conducted in Mason City, Iowa; Bellevue, Nebraska; and La Vista, Nebraska. Further, teacher skills improved over the course of the fall 2019 semester.

Limitations

All three student assessment tools utilized in this study were completed by the student's teacher and are subject to each teacher's interpretation of behaviors and attitudes across various domains of social-emotional competence and disruptive behaviors. Additionally, this study captures only one semester of TCIT implementation for a small sample of students in two school districts. A lack of reimbursement and funding for TCIT limits the ability of school districts to purchase assessment measures necessary to score a large sample of students for research purposes; moreover, lack of funding limits the ability of school districts to train teachers in TCIT and expand implementation to new school districts.

Recommendations

Based on these data findings, continue implementing TCIT in both Storm Lake and Cherokee, Iowa, as results demonstrate it is effective at increasing social-emotional competence and in reducing both the frequency and intensity of students' disruptive behaviors. Additionally, data collection should continue in school districts where TCIT is implemented so both short- and long-term effects of TCIT implementation can be analyzed and documented.

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